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NOTICE OF ALLOWANCE AND FEE(S) DUE

7590

07/12/2007

Jonathan Y. Kang Lee, Hong, Degerman, Kang & Schmadeka 14th Floor 801 S. Figueroa Street Los Angeles, CA 90017

EXA	MINER
AN, S	SHAWN S
ART UNIT	PAPER NUMBER
2621	

DATE MAILED: 07/12/2007

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.	
10/792,199	03/02/2004	In Hwan Choi	2080-3023C4	4906	

TITLE OF INVENTION: VSB TRANSMISSION SYSTEM FOR PROCESSING SUPPLEMENTAL TRANSMISSION DATA

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1400	\$300	\$0	\$1700	10/12/2007

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

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- III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

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APPLICATION NO.	FILING DATE		FIRST NAMED INVENT	ΓOR		ATTO	RNEY DOCKET NO.	CONFIRMATION NO.
10/792,199	03/02/2004		In Hwan Choi				2080-3023C4	4906
APPLN. TYPE	SMALL ENTITY	N SYSTEM FOR PROC	CESSING SUPPLEMEN'		RANSMISSION		TOTAL FEE(S) DUE	DATE DUE
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EXAM	INER	ART UNIT	CLASS-SUBCLASS					
AN, SH	AWN S	2621	375-240120					
"Fee Address" ind: PTO/SB/47; Rev 03-0 Number is required. 3. ASSIGNEE NAME A	ND RESIDENCE DATA ess an assignee is ident h in 37 CFR 3.11. Comp	" Indication form acd. Use of a Customer A TO BE PRINTED OF	registered attorney 2 registered patent a listed, no name will	nativel ingle f or age attorne l be pri r type) ne pate an ass	y, irm (having as a nt) and the name ys or agents. If n inted. nt. If an assigne signment.	members of upon am	er a 2 o to c is 3 entified below, the do	cument has been filed for
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Notice of Allowability Top		Application No.	Applicant(s)
Notice of Allowability Examiner Shawn S. An — The MAILING DATE of this communication appears on the cover sheet with the correspondence address— All claims being allowable, PROSECUTION ON THE MERITS (S (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. THIS NOTICE OF ALLOWABILITY IS NOTA CRANT OF PATENT RIGHTS. This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308. 1. ☑ This communication is responsive to 3/2/04 and 2/7/05. 2. ☑ The allowed claim(s) is/are 41-56. 3. ☑ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f). a) ☑ All b) ☐ Some* c) ☐ None of the: 1. ☐ certified copies of the priority documents have been received. 2. ☑ Certified copies of the priority documents have been received in Application No. 09/933,280. 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)). **Certified copies not received: —— Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application. THIS THREE-MONTH PERIOD IS NOT EXTENDABLE. 4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient. 5. ☐ CORRECTED DRAWINGS (as 'replacement sheets') must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient. 6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding R		10/792 199	CHOLET AL.
The MAILING DATE of this communication appears on the cover sheet with the correspondence address—All dains being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not include herewith for previously mailed), a hotter of Allowance (PTOL-85) or other apportate communication will be mailed in due course. THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS. This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308. 1. ☑ This communication is presponsive to 3/2/04 and 2/7/05. 2. ☑ The allowed claim(s) is/are 41-56. 3. ☑ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f). a) ☑ All b) ☐ Some* c) ☐ None of the: 1. ☐ Certified copies of the priority documents have been received. 2. ☑ Certified copies of the priority documents have been received in Application No. 09/933.280 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)). **Certified copies not received: Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONNENT of this application. THIS THREE-MONTH PERIOD IS NOT EXTENDABLE. 4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient. 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted. (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached 1) ☐ herefor or 2) ☐ to Paper No./Mail Date	Notice of Allowability		
The MAILING DATE of this communication appears on the cover sheet with the correspondence address—All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mail of use course. THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS. This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308. 1. ☐ This communication is responsive to 3/2/04 and 2/7/05. 2. ☐ The allowed claim(s) is/are 41-56. 3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f). a) ☐ All b) ☐ Some* c) ☐ None of the: 1. ☐ Certified copies of the priority documents have been received. 2. ☐ Certified copies of the priority documents have been received in Application No. 09/933.280 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Burseau (PCT Rule 17.2(a)). **Certified copies not received: —— Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONNENT of this application. THIS THREE-MONTH PERIOD IS NOT EXTENDABLE. 4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient. 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted. (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached 1) ☐ herefore or 2) ☐ to Paper No./Mail Date		Shawn S. An	2621
2.	All claims being allowable, PROSECUTION ON THE MERITS IS herewith (or previously mailed), a Notice of Allowance (PTOL-85 NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT of the Office or upon petition by the applicant. See 37 CFR 1.31	pears on the cover sheet with the S (OR REMAINS) CLOSED in this or other appropriate communical RIGHTS. This application is subjection	e correspondence address application. If not included tion will be mailed in due course. THIS
3.	1. \(\subseteq \) This communication is responsive to \(\frac{3/2/04 \text{ and } 2/1/05}{2} \).		
a) ⊠ All b) □ Some* c) □ None of the: 1. □ Certified copies of the priority documents have been received. 2. ☒ Certified copies of the priority documents have been received in Application No. 09/933.280. 3. □ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)). *Certified copies not received:	2. The allowed claim(s) is/are 41-56.		·
Attachment(s) 1. ☑ Notice of References Cited (PTO-892) 2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948) 3. ☑ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date 11/8, 2/7, 3/2, 6/30 4. ☐ Examiner's Comment Regarding Requirement for Deposit 5. ☐ Notice of Informal Patent Application 6. ☐ Interview Summary (PTO-413), Paper No./Mail Date 7. ☐ Examiner's Amendment/Comment 8. ☒ Examiner's Statement of Reasons for Allowance	a) All b) Some* c) None of the: 1. Certified copies of the priority documents have 2. Certified copies of the priority documents have 3. Copies of the certified copies of the priority documents have 3. Copies of the certified copies of the priority documents have International Bureau (PCT Rule 17.2(a)). * Certified copies not received: Applicant has THREE MONTHS FROM THE "MAILING DATE noted below. Failure to timely comply will result in ABANDON THIS THREE-MONTH PERIOD IS NOT EXTENDABLE. 4. A SUBSTITUTE OATH OR DECLARATION must be sub INFORMAL PATENT APPLICATION (PTO-152) which go 5. CORRECTED DRAWINGS (as "replacement sheets") m (a) including changes required by the Notice of Draftsper 1) hereto or 2) to Paper No./Mail Date (b) including changes required by the attached Examine Paper No./Mail Date Paper No./Mail Date Identifying indicia such as the application number (see 37 CFF each sheet. Replacement sheet(s) should be labeled as such in the paper No./Mail Date Including changes required by the Altached Examine Paper No./Mail Date DEPOSIT OF and/or INFORMATION about the delivered by the delivered b	ve been received. ve been received in Application Note been received in the locuments have been received in the locument of this application. In a second of this application of the department of the locument of	b. 09/933,280 his national stage application from the apply complying with the requirements NER'S AMENDMENT or NOTICE OF claration is deficient. PTO-948) attached the Office action of the back) of 121(d). AL must be submitted. Note the
of Biological Material 9. Other	Attachment(s) 1. ☑ Notice of References Cited (PTO-892) 2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-946) 3. ☑ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date 11/8, 2/7, 3/2, 6/30 4. ☐ Examiner's Comment Regarding Requirement for Depos	5. ☐ Notice of Inform 8) 6. ☐ Interview Sumr Paper No./Ma 7. ☐ Examiner's Am it 8. ☑ Examiner's Sta	nal Patent Application mary (PTO-413), il Date tendment/Comment

Application/Control Number: 10/792,199

Art Unit: 2621

REASONS for ALLOWANCE

Response to Preliminary Amendments

1. As per Applicant's instructions as filed on 3/02/04, claims 1-40 have been canceled, and claims 41-56 have been newly added.

Furthermore, as per Applicant's instructions as filed on 2/07/05, claims 1-40 have been canceled, and claim 41 has been amended.

Allowance of Subject Matter

The following is an Examiner's statement of reasons for allowance.
 Claims 41-56 are allowed.

Claims 41 and 53 recite novel features of an enhanced <u>VSB transmitter</u> for transmitting main data and a supplemental data and a method of multiplexing main data and supplemental data, comprising:

a controller for <u>determining multiplexing information</u> based on amounts of the <u>main data and the supplemental data</u> and <u>adding the determined multiplexing</u> <u>information to a reserved area of a field synchronizing signal</u>;

a multiplexer for multiplexing the main data and the supplemental data <u>according</u> to the <u>determined multiplexing information</u>; and

a data formatter for formatting the multiplexed main and supplemental data for transmission and transmitting the formatted data to <u>one or more VSB receivers</u>.

Claim 46 recites novel features of an enhanced <u>VSB transmitter</u> for transmitting main data and a supplemental data comprising:

a VSB pre-processor for processing the supplemental data for first forward error correction (FEC) and expanding the first FEC processed data by inserting a plurality of null bits into the first FEC processed data;

a controller for determining <u>multiplexing information</u> based on amounts of the <u>main data and the expanded supplemental data</u> and <u>adding the determined multiplexing</u> <u>information to a reserved area of a field synchronizing signal</u>;

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a multiplexer for multiplexing the main data and the expanded supplemental data according to the determined multiplexing information;

a VSB main processor for processing the multiplexed data for second forward error correction (FEC); and

a data formatter converter for formatting the second FEC processed data for transmitting the formatted data to <u>one or more VSB receivers</u>.

The prior art of record fails to anticipate or make obvious the novel features (extra emphasis added on *underlined claims limitations*) as discussed above.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

- 3. The prior art made of record and not relied upon is considered pertinent to Applicant's disclosure.
 - A) Citta et al (5,602,595), ATV/MPEG Sync System.
 - B) Fimoff et al (5,563,884), Reducing multiplex jitter in an ATM/MPEG system.
- C) Jun et al (6,810,084 B1), MEPG data frame and transmit and receive system using same.
 - D) Choi et al (6,947,487 B2), VSB communication system.
- E) Choi et al (6,760,077 B2), VSB reception system with enhanced signal detection for processing supplemental data.
- 4. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to *Shawn S. An* whose telephone number is 571-272-7324.
- 5. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Page 4

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6. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

SHAWN AN PRIMARY EXAMINER

U.S. Patent and Trademark Office; U.S. Department of Commerce

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of Information unless it contains a valid OMB control number. **Application Number** 10/792,199 Substitute for form 1449/PTO Filing Date March 2, 2004 First Named Inventor In Hwan Choi INFORMATION DISCLOSURE Art Unit 2621 STATEMENT BY APPLICANT **Examiner Name** Shawn S An (Use as many sheets as necessary) Attorney Docket Number 2080-3023C4 Sheet U.S. PATENT DOCUMENTS Pages, Columns, Lines, Where Relevant Passages or **Document Number Publication** Name of Patentee or Examiner Cite Applicant of Cited Document Relevant Figures Appear Number-Kind Code (if known) Date No. Initials FOREIGN PATENT DOCUMENTS Pages Columns, Lines, Foreign Patent Document **Publication** Name of Patentee or Where Relevant Τe **Country Code Number Kind** Date Examiner **Applicant of Cited Document** Passages Or MM-DD-YYYY Initials* Code (if known) Cite No. Relevant Figures Appear KR 10-0253000 01-21-2000 LG Electronics Inc. OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.) Date Examiner Considered Signature Considered C

"EXAMINER: Initial interence considered, whether or not citation is in conformance and not considered. Include copy of this form with next communication to applicant. 1 Applicant's unique citation designation number (optional). 2 See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. 3 Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). 4 For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. 5Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. 6 Applicant is to place a check mark here if English language Translation is attached.

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Sheet Suppl.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use as many sheets as necessary)

of 1 of 1

Complete if Known						
Application Number	10/792,199					
Filing Date	March 2, 2004					
First Named Inventor	In Hwan Choi et al.					
Art Unit						
Examiner Name						
Attorney Docket Number	2080-3023C4					

			U. S. PATENT	DOCUMENTS	
Examiner Initials*	Cite No.1	Document Number Number-Kind Code ² (* known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
G8		US- 5,583,889A	12-10-1996	Citta et al.	whole document
EN		^{US-} 5,600,677A	2-4-1997	Citta et al.	whole document
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ar	2	KR-2000-0028757A	5-25-2000	Thompson	whole document	F
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Examiner Signature Considered 7/3/07				4	
	Signature	Date	71	3/	07

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation of not in conformance and not considered. Include copy of this form with next communication to applicant. Applicant's unique citation designation number (ortional). See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. Applicant is to place a check mark here if English language Translation is attached.

Translation is attached.

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Substitute for form 1449/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use as many sheets as necessary)

Complete if Known					
Application Number	10/792,199				
Filing Date	March 2, 2004				
First Named Inventor	In Hwan Choi et al.				
Art Unit					
Examiner Name					
Attorney Docket Number	2080-3023C4				

Considered

			U.S. PATENT	DOCUMENTS	
Examiner Initials*	Cite No.1	Document Number Number-Kind Code ^{2 (d Innoun)}	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
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Translation is attached.

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Complete if Known Substitute for form 1449/PTO **Application Number** 10/792,199 March 2, 2004 Filing Date **INFORMATION DISCLOSURE** First Named Inventor In Hwan Choi et al. STATEMENT BY APPLICANT Art Unit (Use as many sheets as necessary) Examiner Name Attorney Docket Number 2080-3023C4 Sheet

			U. S. PATENT	DOCUMENTS	
Examiner Initials*	Cite No.1	Document Number Number-Kind Code ^{2 (I known)}	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
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Examiner Initials*	Cite No.1	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	
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Signature

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FORM PTO-144	19 NOV 0 8 2004 3	Docket Number (Op 2080-3023	tional) C4	Application Number 10/792,199			
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	(Use several sheets if necessa		Filing Date March 2, 20	104	Group Art Unit		
		U.S. PATE	NT DOCUMENTS			···	
EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE	
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Notice of References Cited Application/Control No. 10/792,199 Examiner Shawn S. An Applicant(s)/Patent Under Reexamination CHOI ET AL. Page 1 of 1

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	С	US-6,810,084 B1	10-2004	Jun et al.	375/240.28
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NON-PATENT DOCUMENTS

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*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)

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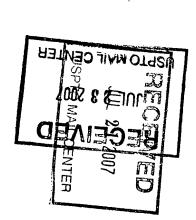
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APPLICATION NO	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.	
10/792,199	03/02/2004	In Hwan Choi	2080-3023C4	4906	
7	7590 07/12/2007		EXAM	INER	
Jonathan Y. Kan	ıg		AN, SHAWN S		
Lee, Hong, Degen	man, Kang & Schmadeka	ART UNIT	PAPER NUMBER		
14th Floor 801 S. Figueroa St Los Angeles, CA		2621 DATE MAILED: 07/12/2007			

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)

(application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 801 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 801 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (http://pair.uspto.gov).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.